

Project Title: IPM Field Day for Small-Scale Cabbage and Collard Production

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## Problem:

Cabbage and collard are two important crops in the small vegetable farmer cropping system. Traditionally, both crops are grown during the cooler months of the year. Due to increase demands, year round production is common today. This has lead to increased pest control problems and costs for growers. One reason for the increase in production costs is that growers are spraying the crops on a calendar basis to meet consumers demand for a blemish-free product. This practice is costly to growers in that it reduces their profit margin. Also, this practice can have very negative effects on the environment, human health issues, beneficial insects, wild bees and agriculture in general. Farm food safety issues could also become a problem as a result of this practice.

Calendar based spray applications do not take into consideration what are the pest and beneficial insect relationships in the field. Also, these growers had a tendency to use old chemistry pesticides in their spray program. The old chemistry pesticides are generally very hard on beneficial insects and pest resistance is a major issue.

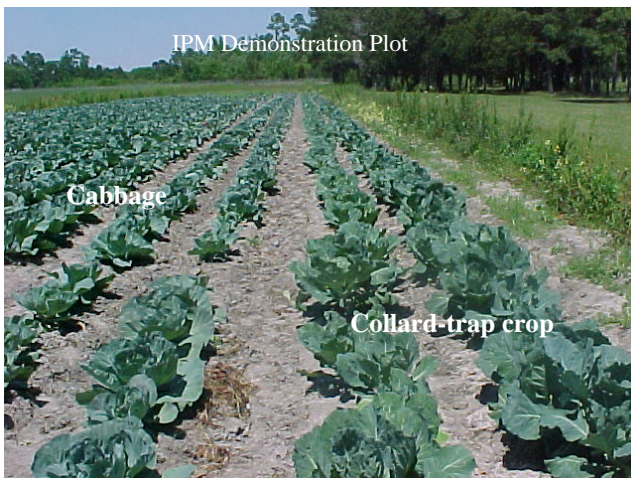
The objectives of the field day were to:

- Teach field sampling techniques to cabbage and collard growers.
- Teach growers decision-making on when to or when not to spray based on field sampling results.
- Teach major pests and beneficial insect identification to growers.
- Give growers hands-on training in field sampling, sprayer calibration and insect identification.

For small-scale vegetable growers to continue farming they must adopt new practices that are cost effective and environmentally compatible. IPM represents an alternative that is workable, environmentally safe and fits into the resource base of these growers. The overall goal of this project is to encourage wide-scale adoption of IPM practices by small farmers in Charleston and surrounding counties. This will be achieved by conducting an IPM field day at the Coastal Research and Education Center (CREC).

## Methodology:

A cabbage and collard field was established at the CREC in February 2005. Both crops were planted using Clemson University recommended cultural practices. The collard was planted around the perimeter of the field as a trap crop for the cabbage plants (see photo below). To



encourage the build-up of pests such as imported cabbage worm (ICW), diamondback moth (DBM) and cabbage looper (CL), pesticides were not applied to the plot. This also encouraged the build-up of parasitoids and parasites in the field. This would ensure that both pests and beneficial insects would be present in the field for hands-on teaching purposes. The trap crop was to demonstrate that collard planted around cabbage plants were a practical and effective way of reducing the build-up of DBM larva densities on cabbage plants.

On Saturday April 27, 2005, a field day was held for cabbage and collard growers at CREC. Pests and beneficial insect identification were taught to the growers (see photo below).



Different field sampling techniques were demonstrated to the growers. The growers were divided into groups (see photo below) and allowed to sample the field and make decisions on whether they would spray or not spray the field based on the insects they found and the sampling procedure they used. The growers were also asked to identify the pests and beneficial insects they found. Growers were given copies of the field sampling form and they were taught how to use it.

Growers are sampling cabbage plants for insects (see photo below).



Sprayer calibration was also demonstrated to growers.

Growers observe sprayer calibration demonstration (see photo below).



**Results:**

Twenty six (26) growers and extension agents attended the field day. All the growers and agents participated in the field activities. Growers learned field sampling technique and the established economic threshold for the different major pests on cabbage and collard. Growers learned how to identify the major pests of cabbage and collard. Identification of beneficial insects found in the field was also taught to the growers. Proper sprayer calibration was also taught to the growers.

**Outcome:**

It is expected that the field day activities increase growers and extension agents knowledge of insect identification, field sampling and sprayer calibration. In addition, growers also learned how to use a trap crop in their cropping system as a means of reducing pest damages.